

REMARKS

In response to the above Office Action, claims 1 and 2 have been amended to avoid the objection to certain language in the preamble of each claim and claims 1-4 and 7 to delete the phrase “little by little” and avoid the rejection of these claims under 35 U.S.C. § 112, second paragraph.

In the Office Action the Examiner rejected claims 1-3 under 35 U.S.C. § 103(a) for being obvious over Habisohn in view of newly cited references to Feddema et al. (U.S. 5,785,191), hereafter Feddema and a newly cited reference to Bose (Article on Digital Filters). The withdrawal of the rejection of these claims for being anticipated by Habisohn is appreciated. However, it is believed these claims are also not obvious over the new combination of references for the following reasons.

Habisohn relates to a similar method for controlling a crane, but it does not have the features of the claimed filter unit. Feddema discloses a similar filter and thus the Examiner believes the claimed invention would be obvious over Habisohn in view of Feddema.

However, in Applicant's opinion, Feddema only analytically determines the parameters of the filter a_i , b_i based on the length of the rope without considering the effects of the performance of the crane drive unit, such as the acceleration and the velocity of the crane.

Thus, with the filter of Feddema it is possible that commands for controlling the crane drive unit, which commands are outputted from the filter, could exceed the upper limits of the performance of the crane drive unit. Consequently, the crane could not always be controlled in accordance with the commands outputted from the filter. Namely, if Habisohn's method and system is modified with the filter of Feddema, it could

not completely control the crane so as to sufficiently suppress the sway of the load suspended from the rope.

In contrast, because the present invention determines the parameters of the filter in the manner explained on page 8, line 25, to page 9, line 1 of the specification and as set forth in claims 1-3, the commands outputted from the filter do not exceed the upper limits of the performance of the crane drive unit. Thus, the present invention can control the crane so as to sufficiently suppress the sway of the load suspended from the rope.

In Applicants' opinion, Bose teaches no more than Feddema, it also only determines the parameters of the filter unit without considering the effects of the performance of the crane drive unit such as the acceleration and the velocity of the crane.

Thus it is believed that the inventions of claims 1-3 are not obvious over Habisohn in view of Feddema and Bose. Its withdrawal as a ground of rejection of these claims under § 103(a) is therefore requested.

In the Office Action claims 4-7 were also rejected under § 103(a) for being obvious over Robinett in view of Bose. The withdrawal of the rejection of the claims for being anticipated by Robinett is appreciated. However, it is believed the claims are also not obvious over the newly cited combination of references for the following reasons.

Claims 4 and 7 include the same Expressions (1) and (2) as claims 1-3 which as the Examiner acknowledges on pages 13 and 16 of the Office Action are not taught in Robinett. As discussed above, these Expressions determine parameters of the filter so that the commands outputted from the filter do not exceed the upper limits of the performance of the turning motor. Since Bose does not consider these effects, even if

Robinett's method and system is modified with the filter of Bose, the effects of the present invention could not be achieved as discussed above with respect to claims 1-3.

Thus it is believed that the inventions of claims 4-7 are also not obvious over Robinett in view of Bose either. Its withdrawal as a ground of rejection of these claims is therefore also requested.

It is believed claims 1-7 are in condition for allowance.

In view of the foregoing remarks, Applicants submit that this claimed invention, as amended, is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicants therefore request the entry of this Amendment, the Examiner's reconsideration and reexamination of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

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By: 
Arthur S. Garrett
Reg. No. 20,338
(202) 408-4091

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